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ABSTRACT

This publication begins with a fact sheet that details how tech prep can and should complement other dropout prevention strategies used by a school district. The rest of the document contains 110 selected quotes, statistics, and statements concerning the need for tech prep programs. References (author, title, source, date) are given in parentheses following each statement. (YLB)

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TECH PREP AND DROPOUT PREVENTION

- involves students actively in the learning process
- helps students experience greater success in the classroom
- provides greater relevance for academic study
- brings career understanding into the academic program; helps students envision "reachable" career opportunities
- enables development of students' skills in team-working and social interaction through strategies such as cooperative learning
- encourages more students to take vocational courses and helps improve the image of vocational education
- encourages students to see the high school diploma not as an <u>end</u> goal, but as the <u>foundation</u> for future success
- encourages interaction between students and their parents related to academic study and career options

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- **helps focus teacher, counselor, school attention on the "neglected majority"; affects school climate**

- **brings local business professionals into the school who can help students see the importance of education**

- **provides incentives for students to achieve academically (Technical Advanced Placement)**

- **helps students see postsecondary education as a "reachable" goal both academically and financially (through Tech Prep scholarships, co-op, business-sponsored tuition assistance programs)**

- **can, and should, complement other dropout prevention strategies used by the school/district**

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Tech Prep

...SELECTED QUOTES, STATISTICS AND NEED STATEMENTS

This document contains quotes and other statements concerning the need for Tech Prep programs. References are given in parentheses following each statement.

1. **"By the year 2000, the average job in the Southeast will require almost fourteen years of formal education."**
(United States Department of Labor. The Southeast's 21st Challenge. Atlanta, GA: U.S. Department of Labor, Employment and Training Administration, 1990.)

2. **In South Carolina, technician and service jobs requiring a postsecondary education, such as that offered in two-year colleges, will increase 50%.**
(From 10/89 phone call to Mr. William Dealy, Jr. Regional Management Analyst and Coordinator for Research, Demonstrations, and Evaluation, U.S. Department of Labor, Atlanta, GA based on his research outlined in: The Southeast's 21st Challenge. Atlanta, GA: U.S. Department of Labor, Employment and Training Administration, 1990.)

3. **Employment is expected to grow faster for technicians and related support occupations than for any other major occupational group between now and the year 2000.**
(Davis, S.J. The 1990-91 Job Outlook in Brief. Occupational Outlook Quarterly, Spring 1990, pp. 8-45.)

4. **"The average new job being created here in South Carolina requires about 14 years of formal education...that means entrants are expected to: 1) be able to reason through a variety of work situations without standard solutions; 2) interpret instructions involving written, oral and diagrammatic form; 3) perform arithmetic, algebraic, and geometric operations; and 4) read, write, and speak on a variety of subjects of considerable complexity."**
(from a speech delivered to the Anderson, Oconee, and Pickens County Personnel Associations, August 22, 1989 by William A. Dealy, Jr., Regional Management Analyst and Coordinator of Research, Demonstrations, and Evaluations for the U.S. Department of Labor, Employment and Training Division, Atlanta, GA.)

5. **Of the new jobs available in the Southeast by the year 2000, a two-year college education will be required by 21% of new private sector jobs, and an average of two years of postsecondary education will be required by 45% of new public sector jobs.**
(United States Department of Labor. The Southeast's 21st Challenge. Atlanta, GA: U.S. Department of Labor, Employment and Training Administration, 1990.)

6. **Students who think they don't need many skills to work in textiles or other manufacturing industries will be disappointed. "...high school grads are having trouble getting jobs in manufacturing...companies are setting more sophisticated requirements for blue-collar jobs."**
(Mandel, M.J. Economic Trends: The High Cost of Not Going To College. Business Week, May 1, 1989, p. 20.)

7. "...60% of current jobs require a high-school diploma or less, only 25% of all jobs created between now and the year 2000 will require so little education."
(United Way of America. The Future World of Work: Looking Toward the Year 2000. United Way of America, 1988.)

8. "Students are eager for knowledge...but they haven't been allowed to study what interests them. It's the classic case of the kid who computes and knows 200 batting averages and flunks math...or the kid that can assemble a car and doesn't even take physics. Learning is remembering what you're interested in."
("Are We a Nation of Nitwits?" USA Today, February 13, 1989, p. 2D.)

9. "I take attendance, then ask the students to pass in the homework, a worksheet on Act I of "Romeo and Juliet." I receive about nine papers. When I ask the rest of the class why they didn't do their homework, one girl replies," I had more important things to do." Another boy says, "School isn't cool." It takes about five minutes to get everyone settled down, then I begin the day's discussion. When I ask a question about the play, the same three girls always answer. It's obvious that the rest of the class did not read the assignment, and doesn't plan to. Several times during the lesson, I have to stop mid sentence to reprimand various students for talking, not paying attention or sleeping...I became a teacher because I was anxious to share my love of language and literature with young people. But at the end of the day...I wonder...was I a teacher?"
(Butson, A.R. "Inside the Classroom." Newsweek, June 5, 1989, p. 8.)

10. "...the future of...education in American secondary schools requires a shift of curricular attention...to career-relevant academic skills."
(Dunn, J.A. The Future of Secondary School Vocational Education: Curriculum Reform or Retrenchment--Basic Academic or Technical Skills. Journal of Studies in Technical Careers, 1988, vol. 10(4), pp. 372-383.)

11. "...basic academic skills are rapidly becoming the new content of vocational education curricula."
(Dunn, J.A. The Future of Secondary School Vocational Education: Curriculum Reform or Retrenchment--Basic Academic or Technical Skills. Journal of Studies in Technical Careers, 1988, vol. 10(4), pp. 372-383.)

12. "Virtually all subjects taught now in elementary and secondary school were taught in 1920."
(Dunn, J.A. The Future of Secondary School Vocational Education: Curriculum Reform or Retrenchment--Basic Academic or Technical Skills. Journal of Studies in Technical Careers, 1988, vol. 10(4), pp. 372-383.)

13. "...half of all young American workers...do not attend college. And in the upcoming decade, the economy will depend as much on this diverse group of less skilled workers as it will on the nation's software programmers and rocket scientists."
(Whitman, D. "The Forgotten Half." U.S. News & World Report, June 16, 1989, pp. 44-53.)

14. "Despite the obvious economic consequences of ignoring half the work force, businessmen and educators persistently pay scant attention to non baccalaureate America."
(Whitman, D. "The Forgotten Half." U.S. News & World Report, June 16, 1989, pp. 44-53.)

15. "While two-year colleges are generally ignored outside the trade press, they enroll roughly half of all entering freshmen."
(Whitman, D. The Forgotten Half. U.S. News & World Report, June 16, 1989, pp. 44-53.)

16. "...jobs for technicians will grow by 38% by the year 2000--faster than any other major occupational group. As automation expands, companies need smarter, more flexible employees who can perform a variety of tasks from installing and monitoring welding robots to reprogramming them if production rates drop. This will result in a new breed of employees--"Blue-and-white-striped collar workers--production employees who are paid to think."
(Perry, N.J. The New, Improved Vocational School. Fortune, June 19, 1989, pp. 127-138.)

17. "Though only half of those who enter high school go on to higher education, American schools persist in treating non-college-bound students like second-class citizens. So, many drop out. Quality...programs can motivate students to stay in school--and maybe even go to college--by making academics more palatable..."
(Perry, N.J. The New, Improved Vocational School. Fortune, June 19, 1989, pp. 127-138.)

18. "Schools are experimenting with new teaching methods that integrate academics with hands-on learning...and they are forming closer ties to businesses and community colleges so that students can easily make the transition to work or college."
(Perry, N.J. The New, Improved Vocational School. Fortune, June 19, 1989, pp. 127-138.)

19. "...many people learn academic subjects better in a context they can understand...we're talking about kids who hate math. But if you can show them they need it for blueprints, they'll do it."
(Perry, N.J. The New, Improved Vocational School. Fortune, June 19, 1989, pp. 127-138.)

20. "If we could take the methods of vocational education and combine them with the content of academics, we could really make progress in education."
(Perry, N.J. The New, Improved Vocational School. Fortune, June 19, 1989, pp. 127-138.)

21. "I hated school when I started high school. It was the worst thing in my life. Now I can connect school-work to my interest in computers. It gives a purpose to learning."
(Perry, N.J. The New, Improved Vocational School. Fortune, June 19, 1989, pp. 127-138.)

22. "General education is the enemy...roughly 30% of high school students...take general education, or the general studies program, picking up a math credit here, a woodworking elective there, and finding themselves at graduation equipped for neither college nor work."
(Perry, N.J. The New, Improved Vocational School. Fortune, June 19, 1989, pp. 127-138.)

23. "Around the country, schools are trying to steer [general track] students, who tend to consider the high school diploma the end of their formal education, into a new "technical track" that provides a clear path to college...I'd like to see general studies dropped and [Tech Prep] programs become the standard."
(Perry, N.J. The New, Improved Vocational School. Fortune, June 19, 1989, pp. 127-138.)

24. "Millions of jobs beckon high school graduates with skills. The diploma alone is not enough: Between 1967 and 1987, says the Bureau of Labor Statistics, high school graduates accounted for 60% of the growth in unemployment."
(Perry, N.J. The New, Improved Vocational School. Fortune, June 19, 1989, pp. 127-138.)

25. According to a study conducted by the William T. Grant Foundation released in 1988, the "real median income of families headed by 20- to 24-year olds with high school diplomas plummeted 28% from 1973 to 1986. The drop is roughly equivalent to the income loss Americans suffered in the Great Depression."
(A Vocational Void: Hard Times for High School Graduates. USA Today, July 31, 1990, pp 1D, 2D.)

26. "When the class of 2000 graduates, only 15% of jobs will require a [four-year] college education, but nearly all will require job specific training after high school."
(Cetron, M.J. Class of 2000: The Good News and the Bad News. The Futurist, Nov-Dec 1988, pp. 9-15.)

27. The average monthly income of a worker with an associate degree is almost three times that of a worker with only a high school diploma ($1,188 per month versus $415 per month).
(Wall Street Journal, March 17, 1988, p. 27.)

28. 40% of the 1992 graduates from South Carolina's public schools chose NOT to pursue any type of postsecondary education immediately following their high school graduation.
(Preliminary report, South Carolina Department of Education, S.C. Department of Education Annual Report [Columbia, South Carolina: Department of Education, forthcoming, November, 1993.])

29. 52.1% of first-time freshmen enrolling in South Carolina's two-year colleges needed remedial studies.
(Southern Regional Education Board. Issues in Higher Education: Remedial Education in College: How Widespread Is It? Atlanta, GA: SREB, no. 24, 1988)

30. Only 17% of Americans 25 years or older have attained a bachelor's degree. Even with a dramatic increase in the number of bachelor's degrees awarded in the next decade, at least 75% of public school students are unlikely to earn a four-year degree.
(Parnell, D. The Neglected Majority. Washington, D.C.: The Community College Press, 1985, p. 4.)

31. "And while the work force gets less qualified and our education system gets worse, our products and technologies are growing more complex. We'll have technology able to take voice commands, but people who won't know what they're talking about. We'll have machines that recognize handwriting, but people who can't write." (Gerstner, L.V. "The Workforce Challenge", remarks by the president of American Express at the American Express Company Senior Management Conference, October 13, 1988.)

32. "The old South provided vocational and higher education for some, but neglected basic education for many...the new Southern economy will have to built on the mental strengths of its labor force, and depend on the skills, knowledge, and creativity required for more technically sophisticated work stations." (Growth Policies Board, Commission on the Future of the South. The Report of the Committee on Human Resource Development, 1986.)

33. "It will remain important for high schools to provide a curriculum where theory can be applied to work situations, but the basic competencies must undergird the practical applications..." (Growth Policies Board, Commission on the Future of the South. The Report of the Committee on Human Resource Development, 1986.)

34. "...grades 13 and 14 are the new minimum for a person to succeed in a highly technological society." (Welch, F.G. IE Should Have a Valued Role in Education's Changing World. School Shop, April, 1989, pp. 24-25.)

35. "The college-preparatory curriculum was for students who were heading for a four-year college degree, yet less than 20 percent of those students actually graduated from a four-year college. The largest percentage dropped out during or at the end of their first year." (Welch, F.G. IE Should Have a Valued Role in Education's Changing World. School Shop, April, 1989, pp. 24-25.)

36. "...education is the engine that drives our whole economy and will determine our future in an increasingly interdependent world. It's a short step from neglect and failure in schools to economic failure." (from Kiplinger Washington Letter referenced in: Welch, F.G. IE Should Have a Valued Role in Education's Changing World. School Shop, April, 1989, pp. 24-25.)

37. Of the ninth grade students enrolled in South Carolina's public schools in 1988-89, 36.7% did NOT graduate with their class in 1992. This percentage, known as the "non-completion" rate includes dropouts, deaths, transfers to other providers of secondary education within the state, etc. (The figures on which this percentage is based do not eliminate students who transferred in to the S.C. public school system between the 9th and 12th grade years.) (S.C. Department of Education Annual Report 1988-89 and the 1991-92 graduation rates as stated in the S.C. Department of Education Annual Report, forthcoming, November, 1993.)

38. "For business, helping schools is no longer just a "civic duty." It's a matter of self-interest, perhaps even self-preservation. At stake is quality of future employees...the bread and butter of business, the need for people who can communicate, handle math and technical skills. Companies have no choice...either improve local grade and high schools now or spend billions in the years ahead to make the unemployable employable. There's growing recognition that schools are EVERYONE's responsibility."
(from Kiplinger Washington Letter referenced in: Welch, F.G. IE Should Have a Valued Role in Education's Changing World. School Shop, April, 1989, pp. 24-25.)

39. Only about 25% of all high school graduates...complete college within 5 years after receiving their diploma."
(Baxter, N. Careers 101: Occupational Education in Community Colleges. Occupational Outlook Quarterly, Spring, 1991, p. 13.)

40. "A lot of teachers, consciously or unconsciously, reinforce the idea that education is pointless unless you are going on to college...schools need to do better representing the new reality of the job market to these kids. We need a kind of cultural change all across the system, to sell young people on the relationship between good jobs and skills."
(quote appearing in "Schools trying to link good jobs and skills." The New York Times EDUCATION, September 27, 1989.)

41. "Many dropouts say now that they might have stayed in school if they had had more vocational opportunities, more real work experience while still in high school."
("Schools trying to link good jobs and skills." The New York Times EDUCATION, September 27, 1989.)

42. "Percentage of current jobs requiring education beyond high school: 54%

Percentage of future jobs (1984-2000) requiring education beyond high school: 65%

Percentage of new jobs that can be filled by people with the lowest skill levels: 4%

Percentage of high school class that does not go on to college: 61%"
(American Society for Training and Development. Training America: Learning to Work for the 21st Century. Alexandria, VA: Author, 1989.)

43. "General and vocational education students make up about 61% of the high school population. This "other half" of the class is receiving poor basic skills education and outdated preparation for work. The work of upgrading the "other half" to give them skills that will increase their effectiveness on the job falls to junior colleges, vocational schools, technical schools, the military, and to employers."
(American Society for Training and Development. Training America: Learning to Work for the 21st Century. Alexandria, VA: Author, 1989.)

44. "Only 15% of all four-year college students graduate within four years and only half finish within six years according to a new study based on high school graduates of 1980."
(Education and Work. Career Opportunities News, May/June, 1990, p.4.)

45. **Currently, only 16.2% of all adults in the United States has completed a four-year college degree.**
(Education and Work. Career Opportunities News, May/June, 1990, p.4.)

46. **Only 16.6% of South Carolinians, aged twenty-five years or older, have completed four or more years of college according to the 1990 census.**
(South Carolina Budget & Control Board/Division of Research & Statistical Services, South Carolina Selected Social Characteristics: 1990., State Budget & Control Board Newsletter, Summer 1992.)

47. **"...secondary and postsecondary educational institutions should establish permanent 'forums' which allow the exchange of ideas between employers and teachers. The employer/education connection must move beyond simple 'adopt-a-school' and 'career day' programs to more in-depth interchange and cooperation."**
(United States Department of Labor. The Southeast's 21st Challenge. Atlanta, GA: U.S. Department of Labor, Employment and raining Administration, 1990.)

48. **"Jobs are becoming more demanding, more complex. But our schools don't seem up to the task. They are producing students who lack the skills that business so desperately needs to compete in a global economy. And in doing so, they are condemning students to a life devoid of meaningful employment."**
("The Knowledge Gap," The Wall Street Journal Reports: Education, February 9, 1990, p. r-2.)

49. **"By the year 2000, according to the U.S. Labor Department, the bulk of the labor-pool growth will come from minority-group students, although nearly 40% of those students now are considered functionally illiterate."**
("Wanting Workers," The Wall Street Journal Reports: Education, February 9, 1990, p. 1-10.)

50. **"...technology will probably become increasingly more sophisticated in the future. And that will result in automated equipment that's easier to operate. But it will also mean that more things can go wrong that are harder to remedy--creating the need for more highly skilled technicians."**
("The Workplace Revolution, The Wall Street Journal Reports: Education, February 9, 1990, p. r-7.)

51. **"In most studies, between 10 and 13 percent of lifetime earnings among Americans can be attributed to the initial earnings that take place in school...but academic preparation leverages learning on the job...[workers with only] a high school diploma are not likely to get on-the-job training...[people with a diploma] plus two years of formal education have a 20 percent greater chance of securing such training. And those who have some college education have a 50% greater chance."**
(Carnevale, Anthony P. et. al., Workplace Basics: The Skills Employers Want. The American Society for Training & Development and the U.S. Department of Labor, 1988, p. 5.)

52. "During the last recessionary period, high school dropouts experienced a staggering 40 percent decline in earnings, the earnings of those with a high school degree, some college, or a college degree declined by 30 percent, 26 percent and 11 percent respectively. Between 1960 and 1984, the earning differences between high school graduates and dropouts increased from 30 percent to 60 percent."
(Carnevale, Anthony P. et. al., Workplace Basics: The Skills Employers Want. The American Society for Training & Development and the U.S. Department of Labor, 1988, p. 5.)

53. According to a recent study conducted through the University of Florida, "people who earned associate degrees earned about the same or more money as bachelor's degree holders" in five of the eight employment categories studied. [However], "it is not a matter of whether a two- or a four-year degree is better...each has a distinct value within the job market."
("Earning by Degrees: The Financial Benefit of the Associate Degree," The Community, Technical and Junior College Times, October 9, 1990, p. 7.)

54. According to former Education Secretary Lauro Cavazos, the nation's education system should be restructured, using community colleges as "brokers" for the educational reform process. "You [community colleges] are the broker. You're the fulcrum. You have that communication with elementary/secondary [education]. At the same time you have contact with with higher education and the business community. The flexibility that we see in community colleges should also be in the elementary and secondary schools," said Mr. Cavazos.
("Cavazos Emphasizes Role for Community Colleges in Meeting National Education Goals," The Community, Technical and Junior College Times, October 9, 1990, p. 7.)

55. "Had the power of educational technology (not in the laboratory but in common use) advanced at the same pace over the past four decades as that of computer technology, a high school diploma--which still takes 12 or 13 years at a cost of about $50,000--could be produced in seven minutes at a cost of five cents... this statistic underscores how rapidly the gap is growing between the technology of education and the technology of the rest of the world."
(Perelman, Lewis. The Learning Revolution. Chalkboard, Fall/Winter, 1989, pp. 12-20.)

56. "The classroom of the future is one that integrates academic and technical knowledge and skills...This model makes good educational and economic sense and will prove, as the history of educational reform is written, to have been a most valuable design."
(Kolde, R. Integrated Learning for a Competitive Work Force. Kappan, February, 1991, pp. 453-455.)

57. "If (the GED) were employed as a test for high school graduation, the cut-off score now in use would deny a high school diploma to approximately 30% of graduating seniors."
(Pipho, Chris. "The Unbridled, Undebated National Test." Kappan, April, 1991, pp. 574-575.)

58. "(Tech-Prep/Associate Degree programs) benefit students by decreasing the amount of material they must go over twice, once at each school (high school/community college). This saves both time and money. Students are also better motivated in such programs because they see where their education is leading them...The (U.S. Department of Education) sees Tech Prep as giving students a strong foundation in liberal arts and basic academics as well as intense technical preparation...Tech Prep programs are strongly recommended."
(Baxter, N. Careers 101: Occupational Education in Community Colleges. Occupational Outlook Quarterly, Spring, 1991, pp. 17-18.)

59. "The need for the kind of training provided in community colleges has been growing recently. In occupations such (as those for which 1-2 years of college are required), pay is often closer to that of jobs requiring a degree from a 4-year college than to jobs that require no training...Frequently, these occupations also offer better prospects for advancement than do occupations that require no training."
(Baxter, N. Careers 101: Occupational Education in Community Colleges. Occupational Outlook Quarterly, Spring, 1991, p. 13.)

60. "Technology will continue to transform the workplace, eliminating the least skilled jobs and demanding ever higher levels of communications, mathematical, and analytical skills. In fact, more than half of the new jobs created between now and the end of the century will require education beyond high school. Education beyond high school, however, doesn't necessarily mean a 4-year college degree."
(Cavazos, L.F. The Role of Technical Education. Occupational Outlook Quarterly, Spring, 1991, p. 23.)

61. "In his 1985 book, The Neglected Majority, Dale Parnell advocated tech-prep programs as a way of making 'winners of ordinary students.' His logic has proven persuasive. Today, tech-prep programs are 'sweeping the country because the idea simply makes good sense.'"
(Willis, S. Vocational Education: Applied Academics, Tech-Prep Programs Serve the "Forgotten Half." ASCD Curriculum Update, September 1991.)

62. "The U.S. invests less than half as much for each work-bound youth as it does for each (four-year) college-bound youth...There is increasing acknowledgment that our traditional education focus on college-bound youth needs to change."
(Warnat, W.I. Preparing a World-Class Work Force. Vocational Education Journal, May, 1991, pp. 22-23.)

63. "Baccalaureate education continues to hold the place of honor in the education and employment communities, even though it is recognized that the skills and knowledge needed by the vast majority of the workforce are less than baccalaureate level."
(Warnat, W.I. Preparing a World-Class Work Force. Vocational Education Journal, May, 1991, p. 25.)

64. "...the skills deficit has already cost businesses and taxpayers $20 billion in lost wages, profits and productivity. Another estimate frequently bandied about is that corporate America is spending $300 million a year on remedial three R's training for employees."
(Zemke, R. Workplace Literacy: Shall We Overcome? Training, June, 1989, p. 35.)

65. "At a minimum, most jobs of the future will require good communications skills, competency in math and reading, the ability to give or receive directions, and an aptitude for solving problems. In particular, the ability to interact with other people, customers and co-workers, will be a key element to employment opportunities in the 21st century."
(DeVita, C. America in the 21st Century: Human Resource Development, December, 1989.)

66. Between 1984 and 1987, average monthly earnings increased 8.6% for high school graduates, 22.7% for associate degree graduates, and 18.8% for bachelor's degree graduates.
(U.S. Department of Commerce, Bureau of Census, Current Populations Reports, 1990.)

67. "The average person finishing high school today is expected to change jobs 10 times and change careers three times."
(Education and Work. Career Opportunities News, March/April, 1990, p.4.)

68. "Associate degree holders clearly have an advantage over people who do not complete a postsecondary credential. Students who attend college without earning a bachelor's degree would do better to finish an associate degree program rather than leave college without a credential."
(Reported in the AACJC Letter, April 1, 1990, based on: American Association of Community and Junior Colleges. "Where America Goes to College." Washington, D.C.: Author, 1989.)

69. "...Community colleges, once shunned as little more than post-graduate vocational schools for those unable to make the grade at "real colleges," are becoming a global model for democratic higher education in the 21st century."
("Academia's Other Half." U.S. News & World Report, October 16, 1989, p. 82.)

70. "Ten million new jobs are expected to be created in the Southeast by early in the 21st century. Half will require post-high school technical training. Another third will require a four-year degree. That leaves a jobs pool of 15 percent on the lowest-paying rung of the service sector. Now consider this: Only one of three South Carolinians who entered first grade in 1971 has made it into post-high school training."
("State Must Reverse College Funding Slide" (editorial), The State, September 6, 1991, p. 10A.)

71. "Although over 80 percent of all jobs do not require a four-year college degree, the students unlikely to enroll in college directly after high school receive little in the way of systematic assistance to prepare for and find jobs when they leave school."
(Moore, G. "Let's Get Over That Bridge." Work America, November, 1991, pp. 1-6.)

72. Every day, 1,512 teenagers drop out of school across the United States.
(source: Children's Defense Fund, 1990, as reported in: "Local Schools Want Values Put Back in the Classroom." The Greenville News, December 8, 1991, p. 1A, 5A.)

73. "A report from the Department of Education's National Center for Education Statistics indicates that a much smaller proportion of those who were high school seniors in 1982 went on to earn a postsecondary diploma, certificate or degree than was the case for those who were seniors in 1972. Half of the 1972 high school seniors completed another level of education within 4 years after leaving high school. Only 20 percent of the 1982 senior class did. Seven years after their senior year, 58% of the 1972 group had completed another educational level; only 37% of the 1980 group had done so. Data for the 1982 group are not available."
(Occupational Outlook Quarterly, Summer 1990, p. 53.)

74. "On average, less than half of all South Carolina high school graduates go on to college, a rate lower than the Southern and national averages. The statistics do not account for the roughly one-third of all students in South Carolina who drop out of school before graduation."
(Faris, J. "State Hopes to Boost College-Bound Ranks." The Greenville News, December 12, 1991, p. 1A, 11A.)

75. According to a national ranking of education statistics reported in the Chronicle of Higher Education, the (annual) high school dropout rate in South Carolina in 1990 was 11.7% and the percentage of adults in 1990 with four or more years of college was 16.6%.
(The Chronicle of Higher Education Almanac, August 25, 1993, p. 6.)

76. "The high school dropout rate in the Southeast continues to be one of the highest of any region in the country. Almost thirty-six percent of students entering high school in the ninth grade fail to graduate with their peers at the end of the twelfth grade...The economic loss to the individual dropout is high since the average annual income for a person with less than a high school education is thirty-seven percent less than for a high school graduate. The overall lifetime cost of each dropout to the region's economy, in terms of lost tax revenue, welfare and unemployment expenditures, crime prevention funds, and lost productivity to employers is estimated at $60,000. This means an economic loss to the region's economy of some $84 billion between now and the turn of the century."
(United States Department of Labor. The Southeast's 21st Challenge. Atlanta, GA: U.S. Department of Labor, Employment and Training Administration, 1990, p.6.)

77. "Fifty-five percent of all consumer banking transactions in 1988 were done with an automatic teller machine. What percentage of transactions were they used for in 1982? Zero. Why? Because few ATMs existed in 1982. What has happened to the number of cashiers and tellers in the banking industry in America in the last six years? They have been reduced by 40%. This number is projected to decline by an additional 40 percent between now and 1993...What are the banks scrambling for today? Technicians that can run the ATM systems."
(From a speech made by Dr. Willard A. Daggett contained in the article, "Future Workplace is Shocking," North Carolina Education, November/December, 1990, pp 2-9.)

78. "In America, our college drop-out rate is over 50%."
(From a speech made by Dr. Willard A. Daggett contained in the article, "Future Workplace is Shocking," North Carolina Education, November/December, 1990, pp 2-9.)

79. "Are your dreams for your children that they'll go to high school and drop out, or go to high school in the general track and not make it, or go on to a postsecondary experience and drop out and not make it? Those scenarios represent 60 percent of the young people in this country. Therein lies the problem in American education. We focus on the 40 percent who make it and forget the 60 percent. I think we have to make some major changes in our system."
(From a speech made by Dr. Willard A. Daggett contained in the article, "Future Workplace is Shocking," North Carolina Education, November/December, 1990, pp 2-9.)

80. For the 1992 high school graduating class in the tri-county area, 31.3% of Anderson County graduates entered a four-year college and 32.5% entered a two-year college*; 29.1% of Oconee County graduates entered a four-year college and 29.4% entered a two-year college*; and 26.3% of Pickens County graduates entered a four-year college and 23.4% entered a two-year college*.
(Preliminary report, South Carolina Department of Education, S.C. Department of Education Annual Report [Columbia, South Carolina: Department of Education, forthcoming, November, 1993.])
* "Two-year colleges" are defined as two-year, associate degree-granting institutions such as the two-year USC branches, or technical colleges which award diploma, certificate or associate degrees.

81. "American schooling sequesters students from the real world, breaks knowledge down artificially into theoretical disciplines, breaks disciplines down into component pieces, and demands that students commit fragments of knowledge to memory. Applications are reserved for pen-and-paper exercises at the back of the chapter. Interdisciplinary applications are rare, and applications in the context of working groups are even more rare."
(Quote from Anthony Carnevale, chief economist and vice-president of national affairs for the American Society for Training and Development contained in: Hull, D. "Tech Prep: Practical Education for America's Work Force." School Shop/Tech Directions, March 1992, p.17.)

82. "The 1.25 grade-level-equivalent decline in the academic achievement of high school seniors between 1967 and 1980 lowered the nation's productivity by $86 billion in 1987 and will lower it by more than $200 billion annually by the year 2010. American students' academic decline can be attributed in part to their correct assessment of the lack of connectedness between work and schools."
(Bishop, M. "Why U.S. Students Need Incentives to Learn." Educational Leadership, March, 1992, p. 15.)

83. "It seemed to me then, and it does now, that a lot of what I learned in school was totally unconnected to any purpose I've had outside of school. I think it's a great mistake to construct a curriculum like that. All kids would learn a whole lot better if there was constant interplay between learning the content and applying it. Academic and vocational--from kindergarten on up. Learn it and apply it. That's how I've learned everything of value to me since I got out of school."
(O'Neil, J. "On Education and the Economy: A Conversation with Marc Tucker." Educational Leadership, March 1992, p. 22.)

84. "A growing number of our best and brightest students enroll in higher education institutions outside of South Carolina. Last year, nearly half of the students who scored 1200 or better on the SAT left the state." (Note: And while our educational system continues to devote much of its attention and resources to the "best and the brightest," many of those students leave us to pursue higher education and, it is logical to assume, many will stay out-of-state to work after college. All the more reason to invest in South Carolina's future workers, many of whom will come from the Tech Prep programs now being implemented across the state.)
(DiGiorgio, A. "What University Designation for College Will Mean to State" [editorial], The Greenville News, March 15, 1992, p. 3.)

85. "In the twenty-first century, sustainable competitive advantage will come not from new product technologies but from new-process technologies--those that enable industries to produce goods and services faster, cheaper, and better...When the route to success is inventing new products, the education of the smartest 25 percent of the labor force is critical: Someone in that top group can be counted on to invent the new products of tomorrow. But when success depends on being the cheapest and best producer of products, the education of the bottom 50 percent of the population becomes a priority. This is the part of the population that must operate those new processes. If the bottom 50 percent cannot learn what must be learned, new high-tech processes cannot be employed."
("The New Economics of High Technology." Harper's Magazine, March 1992, pp. 15-17.)

86. "...The writing most often taught in school are essays, book reports, and literary criticism. Working with the business community, [a wide variety of writing was found in the workplace]--reports, brochures, letters, memos, and instructions--but very little demand for literary criticism. (University educators even said that being good at writing literary criticism isn't all that helpful for most academic disciplines.)"
(Packer, A. H. Taking Action on the SCANS Report. Educational Leadership, March 1992, p. 28.)

87. "While most high school teachers are quite familiar with the entrance requirements for [four-year] college, few know what is needed to succeed at work."
(Packer, A. H. Taking Action on the SCANS Report. Educational Leadership, March 1992, p. 28.)

88. "The most effective way to teach skills is in the context of real-life situations and real problems. Students should not be filled with abstract data to be recalled for a test and forgotten, but, rather, they should begin by applying their knowledge."
(Packer, A. H. Taking Action on the SCANS Report. Educational Leadership, March 1992, p. 30.)

89. "By some estimates, by the time a child born in the early '90s is ready to head off to college, four years of education at a public university will cost about $100,000."
(Newborns College Bound. Anderson-Independent Mail, April 19, 1992, p. 2-D.)

90. "Relative to their respective sizes, for every dollar of taxpayer's money invested in the education of the non-college bound, fifty-five dollars is spent subsidizing those going to college--a ratio that is neither fair nor efficient. Other nations' governments invest heavily in the postsecondary skills of the non-college bound. Britain, France and Spain spend more than twice as much as the United States; Germany, more than three times as much; and Sweden, almost six times as much."
(Thurow, L.C. Head to Head: The Coming Economic Battle Among Japan, Europe, and America. New York, NY: William Morrow and Company, 1992, p. 275.)

91. "The demands of flexible high-tech manufacturing require an agile new breed of skilled worker--one who can write a memo to the company's engineering division as swiftly as she can adjust a numerically controlled machine tool."
(Dentzer, S. How to Train Workers for the 21st Century. U.S. News & World Report, September 21, 1992, p. 73.)

92. A national study on the college graduating class of 1986 shows 27% of graduates were not employed full-time, and 57% of those who were employed, were employed in fields unrelated to their degrees. Twenty-five percent were in jobs not generally requiring a four-year college degree.
(Amirault, T. Labor Market Trends for New College Graduates. Occupational Outlook Quarterly, Fall 1990, p. 10, 15.)

93. "In 1995, some 20-24 million robots will be doing work once done by people. Even the fast-food chains are working toward automation, eliminating $5-per-hour jobs and creating $20-per-hour jobs for technicians to tend the laser cooking system."
(MDC, Inc. Greater Expectations: The South's Workforce is the South's Future. Chapel Hill, NC: MDC, Inc., 1992, p. 12.)

94. "As more demanding jobs devalue the high school diploma, market forces will hasten the day when a community college associate degree will be the new entry-level standard for a decent career."
(MDC, Inc. Greater Expectations: The South's Workforce is the South's Future. Chapel Hill, NC: MDC, Inc., 1992, p. 31.)

95. "The highway from high school to the university has always been smooth and clearly marked. Secondary schools, however, have failed a big chunk of those young men and women who do not pursue a four-year degree."
(MDC, Inc. Greater Expectations: The South's Workforce is the South's Future. Chapel Hill, NC: MDC, Inc., 1992, p. 33.)

96. "Tech Prep, attractive to employers and students alike, is catching on fast...In little more than five years, Tech Prep has moved from demonstration to implementation, and the Tech Prep systems in the Carolinas have become national models."
(MDC, Inc. Greater Expectations: The South's Workforce is the South's Future. Chapel Hill, NC: MDC, Inc., 1992, p. 34.)

97. "...more and more Americans have been going to (four-year) college, and the expected (and advertised) benefits haven't fully materialized...just because you've got a (four-year) college degree doesn't mean you can get a good job...about one-fifth of college graduates go into jobs--store sales workers, for instance--that don't usually require a degree. If more people had gone to (four-year) college in the 1980s...they would have competed mostly for lower wage jobs..."
(Samuelson, R.J. The Value of College. Newsweek, August 31, 1992, p. 75.)

98. According to the 1990 census, almost one-third (31.7%) of adult South Carolinians aged 25 years and older, have less than a high school diploma.
(South Carolina Budget & Control Board/Division of Research & Statistical Services, South Carolina Selected Social Characteristics: 1990., State Budget & Control Board Newsletter, Summer 1992.)

99. According to one study, 26% of those graduating from college in 1991 accepted jobs that they could have obtained with only a high school diploma.
(Bracey, G.W. The Condition of Public Education. Phi Delta Kappan, October, 1992, p. 114.)

100. "Roughly 75 to 80 percent of all jobs may still not require a worker to have a baccalaureate degree in the year 2005."
("What's Going on in the College Labor Market? (An Editor's Note)," Occupational Outlook Quarterly, Summer 1991, p. 3.)

101. "Employment projections for the 1990-2005 period indicate that the average annual openings in jobs requiring a (four-year) degree will number fewer than during the 1984-90 period...demand due to growth will fall off roughly 32% in the coming decade and a half."
(Shelley, K.J. More College Graduates May Be Chasing Fewer Jobs. Occupational Outlook Quarterly, Summer 1991, p. 5, 8.)

102. According to the National Bureau of Economic Research, each year of additional schooling increases a person's wages by 16 percent.
(Wall Street Journal, January 26, 1993.)

103. A report in the Department of Labor's Occupational Outlook Quarterly states that, "Employment projections for the 1990-2005 period indicate that the average annual openings in jobs requiring a (four-year college) degree will number fewer than during the 1984-1990 period." As a result, underemployment for college graduates is expected to reach 30% by the year 2005.
(Too Many Graduates, Too Few Jobs. The Futurist, March/April 1993, p. 57 and Technical Education Resource Monitor, vol. 1, 1992, p. 1.)

104. According to the 1990 census report, among adults age 25 years and older, 76.9 percent have completed high school and 21.1 percent have completed four or more years of college.
(Education and Work. Career Opportunities News, January/February 1993, p. 4.)

105. In Anderson County, 36% of adults have less than a high school diploma while 13% have completed at least a bachelor's degree; in Oconee County, 37% of adults have less than a high school diploma and 13% have a bachelor's degree or more; and in Pickens County, 35% of adults have not graduated from high school while 17% have completed a bachelor's degree or higher.
(1992 Economic Profiles for Anderson, Oconee, and Pickens Counties, S.C. Appalachian Council of Governments, Greenville, SC.)

106. According to the 1990 census, high school graduates earn an average of $1077 per month compared to $1672 for associate degree graduates and $2116 for bachelor's degree graduates. The 1990 census also shows that only 21% of adult Americans have completed four or more years of college.
(Technical Education Resource Monitor, January/February 1993, p. 9; Career Opportunities News, January/February 1993, p. 4.)

107. Ninety-seven percent of parents responding to a recent national survey expected their children to finish high school; 70 percent expected that their children would complete a four-year college degree. The parental projections for college completion are almost triple the actual rate.
(Newsweek [special education section], May 17, 1993.)

108. According to the Bureau of Labor Statistics, "45 percent of the jobs which pay more than $50,000 in today's labor market are held by workers who do not have a four-year college degree."
(National Alliance for Business. What is Youth Apprenticeship? Washington, D.C., June 1993.)

109. Recent analysis of vocational education research conducted over the past decade showed the following results: 1) over 60 percent of vocational students pursue postsecondary education; 2) these students have higher rates of employment and earnings after high school than their peers without vocational coursework; c) investments in vocational education pay off significantly by reducing future social costs.
(Stone, J. Debunking the Myths: Research Offers Ammunition to Fight Misperceptions of Voc Ed. Vocational Education Journal, January 1993, pp. 26-27, 56.)

110. "For the 400,000 high school dropouts during the 1991-92 school year, the unemployment rate was 39.1%, about double the rate for high school graduates."
(Labor Letter, The Wall Street Journal, May 18, 1993.)

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